The Assessment and Development of Multimodal Analytical Models: Phase 1, Regional Routing Model

Start Date: Mar 2005

Projected End Date: Jan 2007

POC:

POC

Problem Addressed:

Current Corps regulations recognize waterway traffic is dynamic and subject to change based upon services and costs of other modes (highway and railroad). Assuming constraints exist on the waterway segment but no such limits exist on competing modes may misrepresent the estimated modal diversion.

Objective:

To develop a methodology of developing cross modal analysis for Corps navigation studies. The work will be developed in partnership with other Federal entities to ensure the collection and integration of relevant information and explore common economic data and analytical methods. As part of the initial phase of development ORNL will develop a prototype Regional Routing Model (RRM) and supporting data base to assist USACE in linking economic (production and consumption) activity data on selected agricultural products to the movement of these products through the multi-modal (highway, rail, waterways) US transportation network. The resulting cost and flow matrices will provide a basis for further analysis of the effects of changes in inland and intra-coastal transportation costs and future network structure changes on the distribution of commodity movements through specific seaports. The model will be compared against other existing modal diversion models to examine both data needs and applicability. These models will be linked to other NETS modules, especially the multiport and GIS work elements.

Benefits:

A multimodal framework would provide a method of examining potential modal changes along a corridor or port region based upon changing various operational and system metrics. Working with other government agencies may provide additional models and data sets, which may strengthen the Corps ability to assess multimodal diversion to non-waterway modes.

Status:

In Progress.

Contract Data:

A1060, C1060

Progress:

Paper by Frank Southworth, Dec 6,2005
(1.4 MB, pdf)

Peer Support Meeting, December 12, 2005 *(html)*

Report by Bruce Lambert, Jan 9,2005
(112 KB, doc)

Products (Bookshelf/Toolbox):

Presentation by Frank Southworth, Sep 28,2006
(18.4 MB, ppt)

Paper by Frank Southworth and Bruce Lambert, Dec 19,2006*(979 KB, pdf)*

Related Links: Navigation Economic Technologies

Social Science Research Network

Revised 25 Oct 2007